

WHAT WE CLAIM IS:

1. A system for generating an assembler for a target
5 microprocessor, the system comprising:-
a descriptor file containing information descriptive
of the instruction set of said target microprocessor and a
translation device for translating assembly language into
machine language as an output wherein the translation
10 device comprises a fetching device for acquiring data from
said descriptor file and a control device receiving said
data from said fetching device and constraining the output
of said translation device to conform to the architecture
of said instruction set.
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2. The system of claim 1 wherein the descriptor file
further comprises syntax information for each instruction,
and the translation device translates each instruction on
the basis of said syntax information.
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3. The system of claim 1 and further comprising a data
capture device having an input for accessing the
instruction set of said target microprocessor and having an
output, wherein said output comprises said descriptor file.
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4. The system of claim 1 and further comprising a linker,
wherein the system has a data transfer device outputting
selected data fetched from said descriptor file to said
linker, whereby said linker uses said output data to modify
30 the translated output of said system.
5. A method of assembling a machine language program for
a target microprocessor comprising:-
35 providing a descriptor file containing information
descriptive of the instruction set of said target

microprocessor;

translating assembly language instructions into
machine language wherein the translation step comprises

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acquiring data from said descriptor file; and

constraining the machine language to conform to
the architecture of said instruction set.

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6. A method as claimed in claim 5 wherein said descriptor
file further contains syntax information for each possible
instruction of the instruction set, and said translating
step comprises transliterating each assembly language
instruction using said syntax information.

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7. A method of preparing a program executable on a target
microprocessor comprising:

20 capturing data from the instruction set of said target
microprocessor thereby forming a descriptor file containing
information descriptive of said instruction set;

25 providing assembly language instructions for said
target microprocessor;

translating each assembly language instruction into a
corresponding machine language output; and

30 using data from said descriptor file, constraining the
machine language output to conform to the architecture of
said instruction set.

8. A method of preparing a program executable on a
35 microprocessor, comprising:

providing plural program modules, at least one of said modules having one or more instructions including external symbols, wherein external symbols have values which cannot be determined without reference to another program module;

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providing a descriptor file containing information descriptive of the instruction set of said target microprocessor;

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translating assembly language instructions into machine language wherein the translation step comprises

acquiring data from said descriptor file;

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constraining the machine language to conform to the architecture of said instruction set;

and further comprising binding external symbols to addresses using data selected from said descriptor file.

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providing a descriptor file containing information descriptive of the instruction set of said target microprocessor;

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translating assembly language instructions into machine language wherein the translation step comprises

acquiring data from said descriptor file;

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constraining the machine language to conform to the architecture of said instruction set;

and further comprising binding external symbols to addresses using data selected from said descriptor file.

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